



US 20210324096A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2021/0324096 A1
OVERDIJK et al. (43) Pub. Date: Oct. 21, 2021

(54) ANTI-DR5 ANTIBODIES AND METHODS OF USE THEREOF

Nov. 10, 2016 (DK) PA 2016 00702

(71) Applicant: GENMAB B.V., Utrecht (NL)

Publication Classification(72) Inventors: **Marije OVERDIJK**, Utrecht (NL); **Kristin STRUMANE**, Werkhoven (NL); **Rik RADEMAKER**, Copenhagen V (DK); **Esther BREIJ**, Utrecht (NL); **Janine SCHUURMAN**, Diemen (NL); **Paul PARREN**, Odijk (NL)

(51) Int. Cl.

C07K 16/28 (2006.01)**C07K 16/30** (2006.01)**A61P 35/00** (2006.01)**C12N 15/62** (2006.01)

(52) U.S. Cl.

CPC **C07K 16/2878** (2013.01); **C07K 16/30**(2013.01); **A61P 35/00** (2018.01); **C12N 15/62**(2013.01); **A61K 2039/507** (2013.01); **C07K****2317/31** (2013.01); **C07K 2317/526** (2013.01);**C07K 2317/73** (2013.01); **C07K 2317/75**(2013.01); **C07K 2317/24** (2013.01)

(21) Appl. No.: 17/108,373

(22) Filed: Dec. 1, 2020

Related U.S. Application Data

(60) Division of application No. 16/451,714, filed on Jun. 25, 2019, now Pat. No. 10,882,913, which is a continuation of application No. 15/780,268, filed on May 31, 2018, now abandoned, filed as application No. PCT/EP2016/079518 on Dec. 1, 2016.

Foreign Application Priority Data

Dec. 1, 2015 (DK) PA 2015 00771

Dec. 7, 2015 (DK) PA 2015 00787

Dec. 7, 2015 (DK) PA 2015 00788

Nov. 10, 2016 (DK) PA 2016 00701

(57)

ABSTRACT

The present invention relates to monospecific or bispecific antibody molecules that specifically bind the human DR5 antigen. The invention relates in particular to DR5-specific antibody molecules of the IgG1 isotype having a mutation in the Fc region that enhances clustering of IgG molecules after cell-surface antigen binding leading to the induction of DR5 signalling, apoptosis and cell death. The invention further relates to a combination of antibody molecules binding different epitopes on DR5. The invention also relates to pharmaceutical compositions containing these molecules and the treatment of cancer using these compositions.

Specification includes a Sequence Listing.